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APPEAL BRIEF FEE TRANSMITTAL

AMOUNT ENCLOSED	Attorney Docket No.	1293.1746
	Application Number	10/603,813
	Filing Date	June 26, 2003
	First Named Inventor	Young-woo Lee, et al.
	Group Art Unit	2627

540.00 Examiner Name Jorge L. Ortiz-Criado

FEE CALCULATION (fees effective 10/02/08)

CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS		- =	0	X \$ 52.00 =	\$ 0.00
INDEPENDENT CLAIMS		- =	0	X \$ 220.00 =	0.00

Since an Official Action set an original due date of March 9, 2009, no extension fees are necessary.

Appeal Brief is enclosed, add (\$540.00)	\$ 540.00
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee (\$140.00)	
Information Disclosure Statement (Rule 1.17(p)) (\$180.00)	
Total of above Calculations =	\$ 540.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)	
TOTAL FEES DUE =	\$ 540.00

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- (2) If entry (2) is less than 20, change entry (2) to "20".
- (4) If entry (4) is less than entry (5), entry (6) is "0".
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- The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	Gregory W. Harper	Reg. No.	55,248
Signature	Gregory W. Harper	Date	March 9, 2009

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Docket No.: 1293.1746

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Young-woo Lee, et al.

Serial No. 10/603,813

Group Art Unit: 2627

Confirmation No. 2773

Filed: June 26, 2003

Examiner: Jorge L. Ortiz-Criado

For: APPARATUS AND METHOD FOR IDENTIFYING DISC TYPE

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In a Notice of Appeal filed September 24, 2008, the applicants appealed the Examiner's May 15, 2008, Office Action finally rejecting claims 10-12, 14-16 and 18. A Request for a Pre-Appeal Brief Conference was filed concurrently with the Notice of Appeal. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on February 9, 2009. The Notice indicated that the application remains under appeal. Therefore, an Appeal Brief is due March 9, 2009.

An Appeal Brief together with the requisite fee set forth in 37 CFR § 41.20, is submitted herewith.

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I. REAL PARTY IN INTEREST

The real party in interest is Samsung Electronics Co., Ltd., the assignee of the subject application.

II. RELATED APPEALS AND INTERFERENCES

Appellants, appellants' legal representative, and the assignee do not know of any prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

III. STATUS OF CLAIMS

Appealed claims 10-12, 14-16 and 18 have been rejected and are on appeal. Claims 1-9, 13, 17 and 19-22 have been cancelled.

IV. STATUS OF AMENDMENTS

The last response submitted in the present application was filed on July 10, 2008 and was considered by the Examiner as evidenced by the Advisory Action mailed on August 6, 2008. No further amendments have been submitted.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 10 recites an apparatus to identify a disc type (paragraph [0021] and Figure 1). The apparatus includes a servo controller (140) that enables tracking and focusing (paragraph [0027] and Figure 1). The apparatus also includes an RF amplifier (110) that produces a push-pull signal from a light wave reproduced from a disc (paragraph [0023] and Figure 1). The apparatus further includes an LPP signal detector (120) that detects a certain voltage level in the push-pull signal immediately after the servo controller enables tracking (paragraph [0025] and Figure 1). In the apparatus, if the certain voltage level is detected the disc is identified as a DVD(-) type disc (paragraph [0027] and Figure 2) and if the certain voltage level is not detected the disc is identified as a DVD(+) type disc (paragraph [0028] and Figure 2). In the apparatus, the LPP detector (120) detects an LPP signal according to detection of the certain voltage level by slicing the push-pull signal at a constant level (paragraph [0025]). Further, the DVD(-) type discs include DVD-RW and DVD-R discs (paragraph [0027]), and the DVD(+) type discs include DVD+RW and DVD+R discs (paragraph [0028]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 10-12, 14-16 and 18 stand rejected under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Kuroda et al. (US 6,144,625).

These grounds of rejection are addressed in the present Appeal and review is respectfully requested.

VII. ARGUMENT

A. Review of the Prior Art -- Kuroda et al. (US 6,144,625) (hereinafter "Kuroda")

Kuroda discusses an optical disc discriminating system. In Kuroda, a band pass filter 12 is adapted to remove noise components contained in the push-pull error signal fed from the regenerative amplifier 7, so as to produce a composite signal S_{PC} which is then supplied to the prepit signal detector 13 and the wobble signal extractor 15. Kuroda, 8:6-8:10 and Figure 1.

Further in Kuroda, If the tracking servo is in its closed condition and an optical disc D to be discriminated is a DVD-R, the composite signal S_{PC} will be an overlapped signal in which a pulse signal caused due to preprints formed in the land tracks is overlapped on a wobbling signal from groove tracks). On the other hand, if an optical disc to be discriminated is a DVD-RAM, a pulse signal caused due to preprints and in synchronism with the head portion (having preprints) of each recording sector, and a wobble signal from the groove tracks, will be intermittently generated alternatively and periodically. Kuroda, 8:11-8:21.

Still further in Kuroda, the prepit signal detector 13 includes a comparator adapted to compare the composite signal S_{PC} with a predetermined reference value, capable of extracting from the composite signal S_{PC} a pulse signal generated due to preprints formed on a DVD-R or a DVD-RAM, producing a prepit detection signal S_{PD} (which is a two-value signal only indicating a high or low value) to be fed to the CPU 9 and the prepit signal decoder 14. Kuroda, 8:22-8:29.

Figure 6 of Kuroda shows step S20, where it is determined that there has occurred a decaying edge in a pulse signal S_{MP2} fed from the MMV 18, so that the program transfers to step S21 to confirm whether a discrimination flag N is 1 or not. If the discrimination flag N is 1, the program transfers to step S 22 to determine that the optical disc D is a DVD-RAM. On the other hand, if at step S21 the discrimination flag N is zero, the program transfers to step S23 so as to determine that the optical disc is a DVD-R. Kuroda, 10:64-11:5 and Figure 6.

In Kuroda, at step S5, the CPU 9 determines whether a digital value indicating an amplitude level of a push-pull signal fed from the A/D converter 11 is higher than a predetermined value (reference value A). If the digital value is higher than the reference value A, the program transfers to step S11. At step S11, a switch closing signal is supplied to the switch 4 to render the tracking servo loop to be in a closed condition. In this way, the tracking servo loop is formed so as to perform a tracking control in accordance with the push-pull error signal supplied from the regenerative amplifier 7. Kuroda, 11:29-11:34 and Figure 6.

B. Claims 10-12, 14-16 and 18 are patentable over the relied upon prior art

In the final Office Action and subsequent Advisory Action, the Examiner rejected claims 10-12, 14-16 and 18 as being anticipated by, or in the alternative, obvious over Kuroda.

Independent claim 10 of the present application discloses a technical feature wherein an LPP signal detector detects a certain voltage level in the push-pull signal immediately after the servo controller enables tracking, wherein if the certain voltage level is detected, the disc is identified as a DVD(-) type disc, and if the certain voltage level is not detected, the disc is identified as a DVD(+) type disc; the DVD(-) type discs include DVD-RW and DVD-R discs, the DVD(+) type discs include DVD+RW and DVD+R discs.

By contrast, the reference relied on by the Examiner, Kuroda, shows in Figure 6 the technical feature of closing the tracking servo loop and reading control code, wherein if a digital value indicating an amplitude level of a push-pull signal is not higher than a predetermined value (at S5, S7, and S8 in Figure 6), the disc is determined as a read-only disc DVD-ROM if the read control code is an inherent predetermined code of DVD-ROM (at S9 and S10 in Figure 6), and the disc is determined neither as a DVD-ROM nor a DVD-R or DVD-RAM if the read control code is not the inherent predetermined code of a DVD-ROM.

In addition, Kuroda discloses technical features of closing a tracking servo loop, starting a timer, and detecting a prepit signal if the digital value indicating the amplitude level of the push-pull signal is higher than the predetermined value (at S5, S11, S24, S25), and then if the prepit signal cannot be detected from the disc, determining whether a predetermined time from the start of the timer have passed or not (at S26). If it is determined at S26 that the predetermined time from the start of the timer of the timer has passed, then it is determined that the disc is neither a DVD-ROM nor a DVD-R or DVD-RAM. An error is detected if the prepit signal has been detected from the disc and it is determined at step S27 that the predetermined time from the start of the timer of the timer has passed at step S29. Then it is determined that the disc is a DVD-RAM if it is determined that the detected error can not be corrected in accordance with the prepit signal format of a DVD-R. It is determined that the disc is a DVD-R if it is determined that the detected error can be corrected in accordance with the prepit signal format of a DVD-R.

As discussed above, Kuroda considers various conditions in order to determine the disc type. That is, Kuroda cannot determine the disc type by considering only whether or not a

certain voltage level is detected by LPP signal detector. Accordingly, the present invention as recited in claim 10 can more easily and efficiently determine the disc type than Kuroda.

Referring in particular to the sections of Kuroda relied on by the Examiner, 11:29-11:34 of Kuroda, it is respectfully noted that Figure 6 of Kuroda shows that between step S11, where the tracking servo loop is closed, and step S25, where the prepit is detected, is step S24 where a timer is started. Further, Kuroda also discusses that at step S26, it is determined whether a predetermined time from the start of the timer has passed or not. If it is determined at step S26 that the above predetermined time from the start of the timer has passed, the program transfers to step S17, to determine that the optical disc is neither a DVD-ROM nor a DVD-R or DVD-RAM, so as to stop all the possible operations after that. Accordingly, Kuroda does not discuss the technical feature of claim 10 of detecting a certain voltage level in the push-pull signal immediately after the servo controller enables tracking. Specifically, Kuroda discusses starting a timer immediately after the tracking servo loop is placed in a closed condition.

As noted above, this technical feature of claim 10 provides that operational conditions of a disc drive can be set in the early stage of the disc driving period, which reduces lead-in time of a disc.

For the foregoing reasons, it is respectfully submitted that claim 10 is allowable over Kuroda. Dependent claims 11, 12, 14-16 and 18 depend on claim 10 and are therefore believed to also be allowable for the foregoing reason.

C. Conclusion

In summary, the Appellants submit that claims 10-12, 14-16 and 18 patentably distinguish over the relied upon prior art. Reversal of the Examiner's rejections is respectfully requested.

Respectfully submitted,

STAAS & HALSEY LLP

Date: March 9, 2009 By: Gregory W. Harper
Gregory W. Harper
Registration No. 55,248

1201 New York Ave, N.W., Seventh Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

VIII. CLAIMS APPENDIX

1-9. (Cancelled)

10. (Previously Presented) An apparatus identifying a disc type, comprising:
a servo controller that enables tracking and focusing;
an RF amplifier that produces a push-pull signal from a light wave reproduced from a disc; and
an LPP signal detector that detects a certain voltage level in the push-pull signal immediately after the servo controller enables tracking;
wherein if the certain voltage level is detected the disc is identified as a DVD(-) type disc and if the certain voltage level is not detected the disc is identified as a DVD(+) type disc,
the LPP detector detects an LPP signal according to detection of the certain voltage level by slicing the push-pull signal at a constant level,
the DVD(-) type discs include DVD-RW and DVD-R discs, and
the DVD(+) type discs include DVD+RW and DVD+R discs.

11. (Original) The apparatus of claim 10, wherein the LPP detector detects an LPP in the push-pull signal by detection of the certain voltage level.

12. (Original) The apparatus of claim 10, further comprising:
a system controller that controls a disc drive and identifies the disc type.

13. (Cancelled)

14. (Original) The apparatus of claim 10, further comprising:
an optical detector that detects the light wave reflected from the disc.

15. (Original) The apparatus of claim 14, wherein the optical detector comprises:
a structure divided into four sections having a first photodiode, a second photodiode, a third photodiode, and a fourth photodiode.

16. (Original) The apparatus of claim 10, wherein the RF amplifier comprises:
a current-to-voltage converter having a first amplifier, a second amplifier, a third amplifier,

and a fourth amplifier, wherein the four amplifiers convert output signals from corresponding first through fourth photodiodes of the optical detector to voltage values; and

a push-pull operator having a first adder, a second adder, and a subtracter, wherein the first adder adds output signals of the first amplifier and the second amplifier to produce a first added signal, the second adder adds output signals of the third amplifier and the fourth amplifier to produce a second added signal, and the subtracter adds the first added signal and the second added signal to produce the push-pull signal.

17. (Cancelled)

18. (Original) The apparatus of claim 10, further comprising:
an optical detector having a bi-sectional structure that includes a first photodiode and a second photodiode.

19-22. (Cancelled)

IX. EVIDENCE APPENDIX

Not applicable

X. RELATED PROCEEDING APPENDIX

Not applicable